

### **AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

#### **Listing of the Claims**

1. (Previously presented) A plasmid mixture comprising:
  - a first plasmid containing a DNA fragment encoding a structural protein composed of core, E1 and E2 proteins of hepatitis C virus, in which 35-40 amino acids are eliminated from the N-terminal region of the original core protein;
  - a second plasmid containing a DNA fragment encoding a non-structural protein of hepatitis of hepatitis C virus composed of NS3 and NS4 of hepatitis C virus; and
  - a third plasmid containing a DNA fragment encoding NS5 of hepatitis C virus,wherein the size of the DNA fragments contained in the first, second and third plasmids ranges from 2 to 6 kb.
2. (Previously presented) The plasmid mixture as set forth in claim 1, wherein the size of the DNA fragments contained in the first, second and third plasmids ranges from 2 to 4 kb.
3. (Canceled)
4. (Canceled)
5. (Previously presented) The plasmid mixture as set forth in claim 1, wherein the first plasmid contains a DNA fragment encoding a core protein in which 40 amino acids are eliminated from the N-terminal region of the original core protein.
6. (Previously presented) The plasmid mixture as set forth in claim 1, wherein the encoded E2 protein contains a transmembrane domain of an E2 protein.
7. (Currently Amended) The plasmid mixture as set forth in claim 1, wherein the first plasmid contains ~~a base sequence represented by~~ SEQ ID No 50.

8. (Previously presented) The plasmid mixture as set forth in claim 7, wherein the first plasmid is pGX10 gDs $\Delta$ ST (Accession No: KCCM 10415).
9. (Currently Amended) The plasmid mixture as set forth in claim 1, wherein the second plasmid contains ~~a base sequence represented by~~ SEQ ID No 51.
10. (Previously presented) The plasmid mixture as set forth in claim 9, wherein the second plasmid is pGX10 NS34 (Accession No: KCCM 10417).
11. (Currently Amended) The plasmid mixture as set forth in claim 1, wherein the third plasmid contains ~~a base sequence represented by~~ SEQ ID No 52.
12. (Previously presented) The plasmid mixture as set forth in claim 11, wherein the third plasmid is pGX10 NS5 (Accession No: KCCM 10416).
13. (Currently Amended) The plasmid mixture as set forth in claim 1, wherein the first plasmid contains ~~a base sequence represented by~~ SEQ ID No 50, the second plasmid contains ~~a base sequence represented by~~ SEQ ID No 51, and the third plasmid contains ~~a base sequence represented by~~ SEQ ID No 52.
14. (Previously presented) The plasmid mixture as set forth in claim 13, wherein the first plasmid is pGX10 gDs ST (Accession No: KCCM 10415), the second plasmid is pGX10 NS34 (Accession No: KCCM 10417), and the third plasmid is pGX10 NS5 (Accession No: KCCM 10416).
15. (Previously presented) The plasmid mixture as set forth in claim 14, further comprising the pGX10 hIL-12m.
16. (Previously presented) A recombinant adenovirus mixture comprising:

a first adenovirus containing a DNA fragment encoding a structural protein composed of core, E1 and E2 proteins of hepatitis C virus, in which 35-40 amino acids are eliminated from N-terminal of the original core protein;

a second adenovirus containing a DNA fragment encoding a non-structural protein composed of NS3 and NS4 of hepatitis C virus; and

a third adenovirus containing a DNA fragment encoding NS5 of hepatitis C virus,  
wherein the size of the DNA fragments contained in the first, second and third adenoviruses ranges from 2 to 6 kb.

17. (Previously presented) The recombinant adenovirus mixture as set forth in claim 16, wherein the size of the DNA fragment contained in the first, second and third adenoviruses ranges from 2 to 4 kb.

18. (Canceled)

19. (Canceled)

20. (Previously presented) The recombinant adenovirus mixture as set forth in claim 16, wherein the first adenovirus contains a DNA fragment encoding a core protein in which 40 amino acids are eliminated from N-terminal of the original core protein.

21. (Previously presented) The recombinant adenovirus mixture as set forth in claim 16, wherein the E2 protein contains a transmembrane domain of an E2 protein.

22. (Currently Amended) The recombinant adenovirus mixture as set forth in claim 16, wherein the first adenovirus contains ~~a base sequence represented by~~ SEQ. ID. No 50.

23. (Previously presented) The recombinant adenovirus mixture as set forth in claim 22, wherein the first adenovirus is rAd gDs $\Delta$ ST (Accession No: KCCM 10418).

24. (Currently Amended) The recombinant adenovirus mixture as set forth in claim 16, wherein the second adenovirus contains ~~a base sequence represented by~~ SEQ. ID. No 54.

25. (Previously presented) The recombinant adenovirus mixture as set forth in claim 24, wherein the second adenovirus is rAd gDs NS34 (Accession No: KCCM 10420).
26. (Currently Amended) The recombinant adenovirus mixture as set forth in claim 16, wherein the third adenovirus contains ~~a base sequence represented by~~ SEQ. ID. No 52.
27. (Currently Amended) The recombinant adenovirus ~~vaccine~~ mixture as set forth in claim 26, wherein the third adenovirus is rAd NS5 (Accession No: KCCM 10419).
28. (Currently Amended) The recombinant adenovirus mixture as set forth in claim 16, wherein the first adenovirus contains ~~a base sequence represented by~~ SEQ. ID. No 50, the second adenovirus contains ~~a base sequence represented by~~ SEQ. ID. No 54, and the third adenovirus contains ~~a base sequence represented by~~ SEQ. ID. No 52.
29. (Previously presented) The recombinant adenovirus mixture as set forth in claim 28, wherein the first adenovirus is rAd gDs $\Delta$ ST (Accession No: KCCM 10418), the second adenovirus is rAd gDs NS34 (Accession No: KCCM 10420), and the third adenovirus is rAd NS5 (Accession No: KCCM 10419).
30. (Withdrawn/Currently Amended) A method of enhancing ~~protective~~ immunity to hepatitis C virus comprising:
- priming with the plasmid mixture of claim 1;
  - boosting with a ~~mixture of~~ recombinant adenovirus mixture that comprises:
    - a first adenovirus containing a DNA fragment encoding a structural protein composed of core, E1 and E2 of hepatitis C virus, in which 35-40 amino acids are eliminated from N-terminal of the original core protein;
    - a second adenovirus containing a DNA fragment encoding a non-structural protein composed of NS3 and NS4 of hepatitis C virus; and
    - a third adenovirus containing a DNA fragment encoding NS5 of hepatitis C virus,

wherein the size of the DNA fragments contained in the first, second and third adenoviruses ranges from 2 to 6 kb.

31. (Withdrawn/Currently Amended) The method as set forth in claim 30, wherein the priming frequency of the plasmid mixture is ~~[[4-5]]~~ 2-5.

32. (Withdrawn/Previously presented) The method as set forth in claim 31, wherein the priming frequency of the plasmid mixture is 3.

33. (Withdrawn/Currently Amended) The method as set forth in claim 30, wherein boosting with the recombinant adenovirus mixture is conducted once after priming with the plasmid mixture three times,

wherein the first adenovirus contains ~~a base sequence represented by~~ SEQ. ID. No 50, the second adenovirus contains ~~a base sequence represented by~~ SEQ. ID. No 54, and the third adenovirus contains ~~a base sequence represented by~~ SEQ. ID. No 52; and

wherein the first plasmid of the ~~DNA-vaccine~~ plasmid mixture contains ~~a base sequence represented by~~ SEQ ID No 50, the second plasmid of the ~~DNA-vaccine~~ plasmid mixture contains ~~a base sequence represented by~~ SEQ ID No 51, and the third plasmid of the ~~DNA-vaccine~~ plasmid mixture contains ~~a base sequence represented by~~ SEQ ID No 52.

34. (Withdrawn/Previously presented) The method as set forth in claim 30, wherein CD4+ Th1 immune response is increased by boosting with the recombinant adenovirus mixture after priming with the plasmid mixture.

35. (Withdrawn/ Currently Amended) The method as set forth in claim 34, wherein CD4+ Th1 immune response is increased by boosting with the recombinant adenovirus mixture once after priming with the plasmid mixture three times,

wherein the first adenovirus contains ~~a base sequence represented by~~ SEQ. ID. No 50, the second adenovirus contains ~~a base sequence represented by~~ SEQ. ID. No 54, and the third adenovirus contains ~~a base sequence represented by~~ SEQ. ID. No 52; and

wherein the first plasmid of the plasmid mixture ~~DNA-vaccine~~ contains ~~a base sequence~~

~~represented by SEQ ID No 50, the second plasmid of the plasmid mixture DNA-vaccine contains a base sequence represented by SEQ ID No 51, and the third plasmid of the plasmid mixture DNA-vaccine contains a base sequence represented by SEQ ID No 52.~~

36. (Cancelled)

37. (Cancelled)

38. (Currently Amended) The plasmid mixture of claim 1,  
wherein the plasmid mixture enhances cytotoxic T lymphocyte response in a person immunized with the plasmid mixture ~~DNA-vaccine~~.

39. (Currently Amended) The recombinant adenovirus mixture of claim 16,  
wherein the recombinant adenovirus mixture enhances cytotoxic T lymphocyte response in a person immunized with the recombinant adenovirus ~~vaccine~~ mixture.

40. (Withdrawn/ Currently Amended) The method of enhancing protective immunity of claim 30, wherein the plasmid mixture and the recombinant adenovirus mixture enhance cytotoxic T lymphocyte response in a person immunized with the plasmid mixture ~~DNA-vaccine~~ and the recombinant adenovirus ~~vaccine~~ mixture.